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Identifying the Organizational Intelligence of Agriculture-Jihad Organization in Guilan Province, Iran

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Abstract

In the modern world, organizations are considered as intelligent systems. Increased Organizational Intelligence (OI) helps organizations to effectively analyze their data, store results, and use outcomes for making professional decisions. The purpose of this study was to measure OI in Agriculture- Jihad Organization in Guilan. A sample of 201 out of personnel was selected from in Agriculture- Jihad Organization in Guilan (N=1296) through a proportional cluster sampling technique. The instrument of the study included 7 intelligence constructs measured against 49 items. Results indicated a medium level of OI in the Guilan Agricultural- Jihad Organization. Among the intelligence components, 'shared fate' received highest ratings and 'appetite for change' received the lowest ratings. The confirmatory factor analysis indicated that of the seven intelligence components, the 'heart' explained highest proportion of variance for describing OI. Findings have implication for designing policies and developing programs for enhancing the OI. It is recommended that Agriculture- Jihad Organization in Guilan should examine and measure their OI and identify strategies to achieve a high level of OI needed for professional success.

Keywords:
Organizational intelligence, Agricultural organization, Confirmatory factor analysis

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INTRODUCTION

Promoting organizational accountability for optimizing the use of available intellectual capitals are the key objectives of managers and leaders in the third millennium (Faghihi and Jafari, 2009). Human is both caused and creator of the work and his unlimited intellectual capabilities plays an important role in organizational evolution (Albrecht, 2002; Khodadadi *et al.,* 2010). Over the past decades, organizations were regarded as a combination of tasks, product, staff, interests, and processes (Halal, 2002); however modern world considers organizations as a framework of intelligent systems. Today, managers are pursuing ways for promoting intelligence in their organizations in order to raise capacities, increase knowledge, explore new resources, and generate awareness. Increased Organizational Intelligence (OI) helps organizations to effectively analyze their data, store results, and use outcomes in making decisions (Zahraii and Rajaii Poor, 2011). With the changing technical, social, and environmental situations over the years, organizations are facing challenges to satisfy the changing needs of their clientele. In the modern organization, intelligent machinery combined with intelligent human resources can play important role in an organization's performance.

The term OI was first developed by Takahiko Matsuda in 1992; his OI model advocated for integrating human knowledge with machinery knowledge for solving problems. Albrecht (2003) defined OI as organizational competence in moving its mental power to meet organizational goals. He believed that OI includes seven components: strategic vision (awareness about destination and work capacity to express goal); shared fate (a common unique goal and team morale); appetite for change (ability to encounter unexpected challenges and adjust with changes); heart (doubled energy and morale for success); alignment and congruence (suitable tools and rules available in organization for success and interacting members in order to face environment); knowledge deployment (capacity to share information, knowledge and vision, and free flow of knowledge throughout the organization); and performance pressure (severity in doing right things for skilled yields and shared success). According to Albrecht (2003), organizations must constantly focus on improving these seven components to reach their unlimited potential.

Organizational Intelligence is a quantitative standard that demonstrates organizational efficiency to share information and make sound decisions (Nasabi, 2008). Matheson and Matheson (2001) stated that an organization with high intelligent quotient has five times higher chances of producing successful performance than the organization with low intelligent quotient. Organizations with high OI generally experience high profitability, capture external information, and ensure that the right decisions are made (Siadat *et al.*, 2010).

Lefter *et al*. (2008) concluded that in small and medium enterprises, only 13% employees were familiar with OI concept and employees in small companies had no information about term at all; however, obtained data analysis showed that OI was in medium or higher level. Also, Potas *et al.* (2010) conducted a study to measure multi-dimensional OI in order to determine management ability of girls Institute of Technical Education. The results showed that OI in studied population was in medium level. Faghihi and Jafari (2009) conducted a study titled 'OI components rate in research and educational planning organization'. OI components include variability, learning and knowledge management, shared fate, strategic vision, information technology, organizational structure, heart and organizational performance. The results showed that in studied population experimental average OI is 2.88 which is lower than theoretical average 3. Kavousi *et al.* (2010) conducted a study to determine OI level in urban management students of Islamic Azad University. The results showed that components strategic vision, shared fate, knowledge deployment, performance pressure and heart are in an optimal level as main components of OI. But alignment and congruence and appetite for change are in a weak level. The relationship between organizational intelligence and health was examined in Isfahan universities in 2009-2010. Research tools include Albrecht

OI questionnaire and Hoy and Fieldsman Organizational health questionnaire. The results showed that there is an average relationship between OI and organizational health (Zahraii and Rajaii Poor, 2011).

There is no exception here for agriculture and therefore we can say that agriculture plays critical role in national development. During recent decades, different views have been offered about the role of agriculture in economic development which accordingly agriculture evolved from inactive section in 1940 and 1950 decades to an active role in recent decades (Allahyari and Eftekhari, 2013). Guilan is located in the north part of the Iran and a major portion of its economy depends upon agricultural activities. Guilan Province with a temperate climate, prone agricultural land, and rich soils for agronomic and horticultural crops has unique characteristics in the agricultural sector. Although many kinds of agricultural productions have been produced in the Province of Guilan, rice production has a special place in the country. Ministry of Agriculture considered this province as one of the important regions term of agricultural production in country. On the other hand, role of Agriculture- Jihad Organization are critical and undeniable in agriculture development. Studies on performance assessment of Agriculture Jihad Organization in Guilan Province revealed that indices such as client accountability, job satisfaction, job commitment, and organization climate and job performance are in inadequate level. Also, there is no good understanding of farmers needs and farmers don't have a positive attitude towards offered services, too (Allahyari, 2012). Applying OI will help organization to have better understanding from client and their requests. Obviously, if the organization wants to fulfill its missions and tasks, it needs raising every employee's awareness to Organizational Intelligence. Given the prominent position among Iranian social institutions, Agriculture- Jihad Organization needs to adopt OI as an important factor for organizational evolution and development. Increase in level of OI results in increased efficiency, effectiveness, and productivity of an organization. Studies conducted in the past two decades have identified the importance of OI and advocated for improving OI both for professional and business success. A thorough review of literature indicated that studies have not been found to have been conducted to assess the OI of Agriculture-Jihad Or-

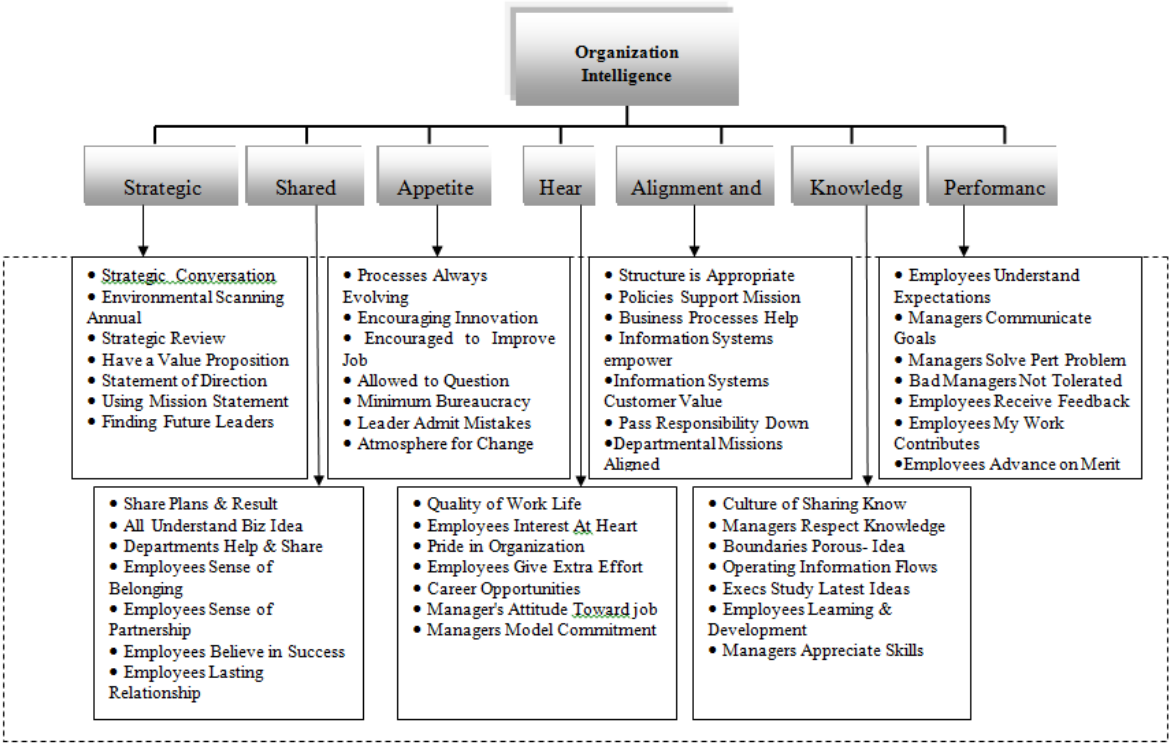

Figure 1: The theoretical framework of research (Albrecht, 2003)

Table 1: KMO and Bartlett test for the Survey Instrument

Components	KMO	Bartlett test	df	p-value
Strategic Vision	0.88	562.53	21	0.00
Shared Fate	0.86	471.54	21	0.00
Appetite for Change	0.89	607.92	21	0.00
Heart	0.86	488.72	21	0.00
Alignment and Congruence	0.81	420.47	21	0.00
Knowledge Deployment	0.89	542.83	21	0.00
Performance Pressure	0.84	387.80	21	0.00
Total	0.93	5652.58	1176	0.00

ganization. This study attempts to identify the level of OI in Guilan Agriculture-Jihad Organization so that the findings could be used for exploring ways to increase the level of OI in Agricultural Organization in Guilan and identify the training priorities of personnel to increase their human potential.

The main purpose of our study was to determine the level of OI in Agriculture- Jihad Organization in Guilan. The specific objectives were to: (1) identify the demographic characteristics of the respondents; (2) determine the level of organizational intelligence in Agriculture- Jihad Organization in Guilan; (3) identify factors affecting the OI in Agriculture- Jihad Organization in Guilan.

In this study to determine the level of OI in Agriculture- Jihad Organization in Guilan Theory Karl Albrecht is considered as a theoretical framework. According to Karl Albrecht theory, organizational intelligence is defined in seven components of strategic vision, shared fate, appetite for change, heart, alignment and congruence, knowledge deployment, and performance pressure (Faghihi and Jafari, 2009; Kavousi *et al.,* 2010; Nasabi, 2008 and Zahraii and Rajaii Poor, 2011).

MATERIALS AND METHODS

Population and Sample

This study followed a descriptive survey research design. It was done in Guilan Province. Guilan Province is one of the most beautiful and fertile provinces of Iran given its unique geographical location. It has a mild climate and a privileged and strategic position, whether by land or via sea to be linked with newly independent countries of the former Soviet Union. In addition, this province has a geographical proximity to the political center of the country in comparison to many of the provinces of Iran. It has an important role in agricultural production in the country. Its major products include rice, wheat and barley, citrus fruits, tea, kiwifruit. The population consisted of the personnel of Agriculture-Jihad Organization in Guilan Province (N=1296) in 2012. According to Bartlett *et al.* (2001) sampling guidelines, a total of 183 respondents were needed to generalize the results of this study to the target population with a 95% confidence level. Each organization in county level considered as a cluster and according to the number of staffs in them, needed samples were chosen randomly. Therefore 250 questionnaires were performed randomly from the cluster of personnel of the organizations. Finally, 201 questionnaires were used for analysis. This decision was based on the response rate (80%) of the pilot-study that was conducted to verify the reliability of the instrument for the current study.

Instrumentation

The instrument for this study was a closed form questionnaire adapted from Albrecht OI standard scale (2003). The instruments included seven OI components/constructs: strategic vision, shared fate, appetite to change, heart, alignment and congruence, knowledge deployment, and performance pressure. Each component had seven items that were measured using a five-point Likert type scale (1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree).

The questionnaire was translated into Persian;

Table 2: Descriptive Statistics of OI Components (n=201) a

Components	Mean	SD	Rank
Shared Fate	3.57	0.70	1
Strategic Vision	3.32	0.81	2
Appetite for Change	3.29	0.77	3
Heart	3.21	0.76	4
Alignment and Congruence	3.20	0.64	5
Knowledge Deployment	3.12	0.78	6
Performance Pressure	3.11	0.76	7

a Scale: Strongly disagree=1 to Strongly agree=5

therefore, a panel of five experts was requested to determine its face validity. The panel included agricultural experts and the faculty members at Islamic Azad University in Rasht. To determine the reliability of the instrument, a pilot-study was conducted with 30 Agriculture- Jihad Organization personnel. The reliability coefficient (Cronbach's alpha) of the seven components were 0.85, 0.77, 0.81, 0.78, 0.77, 0.80, 0.73 respectively for strategic vision, shared fate, appetite for change, heart, alignment and congruence, knowledge Deployment and performance pressure. According to George and Mallery (2003), a Cronbach's alpha ≥0.7 is appropriate for conducting a study.

Further analysis of the pilot-study data produced a statistically significant (α=0 .05) Bartlett test and Kaiser-Meyer-Olkin (KMO) index of 0.93. Small values (less than 0.05) of the significance level indicate that a factor analysis may be useful with the data (Table 1).

Data collection

An informed-consent letter was mailed to potential respondents explaining their selection to participate in this study and its objective. A week after consent letter, a cover letter and questionnaire were mailed to participants. Non-response received additional letter and follow-up telephone calls when needed. A total of three reminder letter was sent each in a week gap. Early and late respondents were categorized as suggested by Ary *et al.* (2010). An independent samples t-test conducted to determine differences between early and late respondents did not yield any difference in their responses. The response rate for the study was 80% (n=201).

Data analysis

Data were analyzed using SPSS. Frequency and percentage were used to identify respondents' demographics (Objective 1). Means and standard deviations were used to determine the level of OI components (Objective 2). A Confirmatory factor analysis was computed using LISREL to identify the factors affecting OI in Agricultural Organization in Guilan (Objective 3).

RESULTS

Objective 1: Identify selected demographics of respondents

The majority of respondents were male (83.60%, n=168). Mean age of respondents was 43.29 years (SD=6.87; range: 27 to 60 years). Respondents' mean years of experience was 19 years (SD=7.60) and more than half of them had over 20 years of experience. Nearly 96% (n=192) respondents were married and most of them were living in urban areas (95.00%, n=191). Respondents with the responsibility of personnel

Table 3: Frequency distribution of respondents based on various levels of OI

	Frequency	Percent
Low Organizational Intelligence (less of 2.93)	63	31.3
Moderate Organizational Intelligence (2.93- 3.56)	73	36.3
High Organizational Intelligence (Up of 3.56)	65	32.3
Total	201	100

Table 4: Model Fitness Criteria, Pre- and- Post Modification

Fitness Index	Standard (Schreiber *et al.* 2006)	Obtained results
Chi^2 /df	3≥	1.893
Root Mean Square Error of Approximation (RMSEA)	0.008≥	0.046
Root Mean Square Residual (RMR)	0.008≥	0.083
Goodness of Fit Index (GFI)	0.85≤	0.76
Adjusted Goodness of Fit Index (AGFI)	0.80≤	0.73
Comparative Fit Index (CFI)	0.90≤	0.98
Normed Fit Index (NFI)	0.80≤	0.95
Non-Normed Fit Index (NNFI)	0.80≤	0.98
Incremental Fit Index (IFI)	0.90≤	0.98

were 71% (n=143). More than half of the respondents in this study had Bachelor's degrees (66.70%, n=134) and respondents with a degree in agriculture were 68.20% (n=137).

Objective 2: To determine the level of organizational intelligence in Agriculture- Jihad Organization in Guilan.

Table 2 shows mean and standard deviation of OI components (total score of each component). Obviously, shared fate (M=3.57) is the highest and appetite for change (M=3.11) is the lowest level.

Then, interval mean from standard deviation (Shabanali Fami, 2000) was used to classify subjects based on level of OI by using means and standard deviations as follow:

A=Low organizational intelligence: A< Mean-1/2SD

B=Moderate organizational intelligence: Mean-1/2SD <B< Mean+ 1/2SD

C=High organizational intelligence: Mean+ 1/2SD < C

Hence, average of Organizational Intelligence was 3.25 and standard deviation calculated as 0.63 and then they grouped according to the above mentioned formula. Table 3 shows that

Table 5: Confirmatory factor analysis of theoretical structure

Factor	Statement	Symbol in Model	Mean	Standard Coefficient	Standard Error	t	R^2
Strategic Vision	Strategic	V1	3.56	0.73	---	---	0.54
	Conversation	V2	2.96	0.73	0.072	10.10	0.53
	Environmental Scanning	V3	3.09	0.74	0.072	10.21	0.55
	Annual Strategic Review	V4	3.56	0.59	0.073	8.05	0.34
	Have a Value Proposition	V5	3.25	0.67	0.071	9.40	0.45
	Statement of Direction	V6	3.32	0.72	0.073	9.86	0.52
	Using Mission Statement	V7	2.84	0.75	0.071	10.51	0.57
	Finding Future Leaders						
Shared Fate	Share Plans & Result	C1	2.85	0.63	---	---	0.39
	All Understand Biz Idea	C2	3.23	0.56	0.081	6.85	0.32
	Departments Help & Share	C3	3.64	0.48	0.079	6.05	0.23
	Employees Sense of Belonging	C4	3.60	0.72	0.094	7.59	0.52
	Employees Sense of Partnership	C5	3.67	0.58	0.082	6.99	0.33
	Employees Believe in Success	C6	3.57	0.69	0.085	8.04	0.47
	Employees Lasting Relationship	C7	3.59	0.65	0.084	7.71	0.42
Appetite for Change	Processes Always Evolving	T1	2.81	0.64	---	---	0.41
	Encouraging Innovation	T2	2.85	0.76	0.084	9.02	0.57
	Encouraged to Improve Job	T3	2.96	0.74	0.083	8.91	0.55
	Allowed to Question	T4	2.82	0.71	0.082	8.57	0.50
	Minimum Bureaucracy	T5	2.79	0.55	0.079	6.90	0.30
	Leader Admit Mistakes	T6	2.72	0.69	0.082	8.35	0.47
	Atmosphere for Change	T7	3.00	0.82	0.085	9.58	0.67

Factor	Statement	Symbol in Model	Mean	Standard Coefficient	Standard Error	t	R^2
Heart	Quality of Work Life	H1	2.49	0.65	---	---	0.42
	Employees Interest At Heart	H2	3.43	0.48	0.076	6.26	0.23
	Pride in Organization	H3	3.06	0.68	0.068	9.87	0.47
	Employees Give Extra Effort	H4	3.55	0.51	0.077	6.58	0.26
	Career Opportunities	H5	3.27	0.65	0.079	8.14	0.42
	Manager's Attitude Toward job	H6	3.30	0.73	0.081	8.92	0.53
	Managers Model Commitment	H7	3.00	0.77	0.082	9.38	0.60
Alignment and Congruence	Structure is Appropriate	A1	3.37	0.62	---	---	0.39
	Policies Support Mission	A2	3.15	0.69	0.084	8.18	0.48
	Business Processes Help	A3	3.11	0.68	0.083	8.10	0.47
	Information Systems empower	A4	3.12	0.58	0.081	7.08	0.33
	Information Systems- Customer Value	A5	3.04	0.56	0.081	6.87	0.31
	Pass Responsibility Down	A6	2.99	0.57	0.081	7.03	0.33
	Departmental Missions Aligned	A7	3.13	0.68	0.084	8.05	0.46
Knowledge Deployment	Culture of Sharing Know	K1	2.87	0.66	---	---	0.43
	Managers Respect Knowledge	K2	2.83	0.75	0.080	9.32	0.57
	Boundaries Porous- Idea	K3	2.99	0.70	0.079	8.83	0.49
	Operating Information Flows	K4	2.94	0.72	0.079	9.07	0.52
	Execs Study Latest Ideas	K5	2.88	0.74	0.080	9.24	0.55
	Employees Learning & Development	K6	3.13	0.49	0.076	6.44	0.24
	Managers Appreciate Skills	K7	2.79	0.75	0.079	9.39	0.57
Performance Pressure	Employees Understand Expectations	P1	3.46	0.56	---	---	0.32
	Managers Communicate Goals	P2	3.30	0.64	0.076	8.38	0.41
	Managers Solve Pert Problem	P3	2.73	0.72	0.097	7.42	0.51
	Bad Managers Not Tolerated	P4	2.63	0.62	0.091	6.78	0.38
	Employees Receive Feedback	P5	2.81	0.57	0.089	6.40	0.33
	Employees My Work Contributes	P6	3.62	0.57	0.089	6.38	0.32
	Employees Advance on Merit	P7	2.32	0.29	0.080	3.62	0.82

Table 6: Seven factors of the model

Factor	Symbol in Model	Standard Coefficient	Standard Error	t	R^2
Strategic Vision	V	0.87	0.083	10.39	0.75
Shared Fate	C	0.90	0.102	8.81	0.81
Appetite for Change	T	0.92	0.099	9.22	0.84
Heart	H	0.95	0.098	9.65	0.90
Alignment and Congruence	A	0.94	0.103	9.09	0.88
Knowledge Deployment	K	0.92	0.095	9.63	0.84
Performance Pressure	P	0.92	0.116	7.89	0.85

the majority of respondents were in average class (36.3%).

Objective 3: To identify factors affecting OI in Agriculture- Jihad Organization in Guilan.

Confirmatory factor analysis was used to analyze data in structural equations. To examine whether all seven components are involved in determining OI, quadratic factor analysis was conducted. Standard error, t-test, coefficient of determination (R^2), and fitness indicators of the model were calculated (Tables 4-6).

Evaluating structural part of the model in Table 4, the statistical value for Root Mean Square Error of Approximation (RMSEA); Root Mean Square Residual (RMR); Comparative Fit Index (CFI); Normed Fit Index (NFI); Non-Normed Fit Index (NNFI); and Incremental Fit Index (IFI) confirmed model's fitness.

Results of the model measurements are reflected in Table 5. Each component (factors) of OI, their corresponding items (variables) and standard coefficient, standard error, t-

statistic, and R2 for each variable is presented in the table. Results indicated that the seven factors and their corresponding variables were significantly correlated given the t-value ($p < .01$).

As shown in Table 5, the 49 observed variables (items) of OI survey instrument are capable of fitting into the model.

The overall standard coefficients score for each 7 factors (components) was also computed (Table 6). Results indicated that these seven factors are significantly correlated determining the OI. It was found that highest amount of variance in OI was explained by the component 'heart' followed by alignment and congruence; performance pressure, appetite for change, knowledge deployment, shared fate, and strategic vision.

DISCUSSION

Among the components of OI, 'shared fate' was ranked as highest. This finding is consistent with Jabari Zahirabadi (2010) and inconsistent with Faghihi *et al*. (2010) and Mollaeian and Eslamieh (2010). And 'appetite for change' was ranked as the lowest. It seems Agriculture Organization of Guilan province focuses on a common aim and a sense group spirit rather than support innovation and necessary change to achieve the strategic vision. This shows the necessity of attention to appetite for change as one of the critical infrastructure of intelligence in Agriculture Organization of Guilan. While personnel have state management promote an atmosphere of acceptance of change and new opinions and encourage employees to find better ways to do their jobs, but have expressed long bureaucratic and not admit mistakes by leaders as an important factor in reducing appetite for change in this regard, it should be noted that no individual or organization is static. Thus the management of the organization should focus on unstable situations, altered objectives and scheduling programs. Because in the present era, the era of fundamental basic change and the organizations that adjust to these conditions and can remain in the race that have capable managers and leaders who are willing to make changes and have a long-term perspective. Results indicated that 31.3% respondents had low OI, 36.3% had average OI, and 32.3% had high OI. The findings regarding average OI are consistent with Kohansal *et a*l. (2010); Lefter *et al*. (2008); Potas *et al*. (2010) and Rahimi *et al.* (2010). Similarly, it is inconsistent with Albrecht (2003); Faghihi and Jafari (2009) and Kavousi and Rezghi shirsavar (2009). The findings of the study indicated that Agriculture-Jihad Organization in Guilan should focus on the strategic vision, shared fate, appetite for change, heart, alignment and congruence, knowledge deployment and performance pressure that are seven components of OI to enhance organizational intelligence and develop into an intelligent organization in planning and policy making (Albrecht, 2003).

The results of confirmatory factor analysis showed that measurement model for latent variable is well fitted. This is consistent with the OI theoretical model proposed by Albrecht's (2003). According to statistical R2 for seven-factor OI, it is obvious that the heart is the most important effective factor in this variable followed by alignment and congruence; performance pressure; appetite for change; knowledge deployment; shared fate and strategic vision.

CONCLUSION

Organization Intelligence of Agriculture-Jihad Organization in Guilan Province was examined in this study. The study revealed Agriculture-Jihad Organization in Guilan should examine and measure various components of OI. It should identify barriers and problems for developing OI of their personnel and identify and implement appropriate strategy to overcome those barriers. Since OI level of this organization was 'average', there is a need to find ways to shift the OI level beyond the average. The component 'heart' explained the highest level of variance for determining OI. According to importance of personnel having good mood in individual satisfaction, increased quality and quantity of work and fulfilling goals of organization then managers should fight with bad mood and try to create good and joyful mood. This will result in increased efforts by personnel in order to access

goals of organization. Mood is one of health components of organization. Proper mood would be obtained through friendly atmosphere, personnel interests in each other, interest in work and other cases. Therefore, these cases should be increased in the organization so that people inclination in doing tasks would be increased and personnel try more than what is expected and their energy being increased constantly and managers and personnel interested in doing tasks. Then it is necessary for managers to fight with bad mood and try to create good and positive mood and this will result in increased personnel efforts in order to reach goals of institution. Therefore, it is recommended that Agricultural Organization should consider keeping employee morale high to increase performance outcomes. Job morale increases the preparation and motivation for work efficiency and effectiveness. Employee morale should be improved through examining their needs, their attitude toward reward and salary, and determining the relationship between salary and performance. The component "alignment and congruence" was in the second place to explain variance; so it is suggested that whole energy and unity of personnel of Agriculture-Jihad Organization of Guilan Province being used in order to reach common goals of organization. Alignment and congruence while doing tasks among personnel should be at top level. Forming work groups in this organization should be activated to high extent. Authority and responsibility should be dedicated at low levels of organization. Missions inside organizations should be able to cause cooperation. Structure of organization should be in consistent with its mission for fulfilling goals. Process of task performance in the organization should causes efficiency and personnel performance improvement. Systems and information tools should make personnel powerful for doing affairs efficiently. Then make them able to create economic values for customers of organization.

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